Photograph courtesy of Michael Tetreau

Black oystercatcher.

Monitoring Nesting Success of the Black Oystercatcher

By Michael Tetreau

The black oystercatcher *(Haematopus bachmani)* is a shore bird that is entirely dependent on rocky intertidal shorelines along the Pacific coast of North America to make its living. As ground nesters with semi-precocial young, black oystercatcher productivity may be negatively affected by human disturbance *(Nysewander 1977, Andres and Falxa 1995)*. In Kenai Fjords National Park, increasing use of the shoreline by visitors, primarily sea kayakers and pleasure boaters, has raised concerns. In 1999 the park initiated a study to examine factors influencing the productivity of black oystercatchers in the park, with fieldwork expected to continue through 2005. The results of this project will provide a valuable tool for managers of similar coastal environments to address increasing levels of human activity.

The study area consists of Aialik Bay, Northwestern Fjord, the east shore of Harris Bay, and the southwest shore of Resurrection Bay ñ approximately 150 miles (240 km) of shoreline in total. Initial boat-based surveys of oystercatcher habitat are conducted each year in early May to provide an overview of possible nesting sites in the study area. The location of each breeding pair and all other oystercatcher sightings are mapped using global positioning systems (GPS) and aerial photographs. Following the initial survey, all nests and potential nesting areas where oystercatchers had been observed are revisited every three to seven days. Once a nest is found, its status is monitored until it fails or the chicks are fledged.

Beginning in 2003, additional methods were incorporated into the study that include periodic floating of the eggs to determine their developmental stage and banding adults and chicks with both permanent metal bands and temporary colored bands for identification. When the birds are captured for banding, morphological measurements are taken, and a small blood sample is collected for sex determination and genetic analysis. In addition to data collected on the birds themselves, environmental conditions throughout the study area and the amount of human activity at campsites are monitored, and surveys of potential predators (e.g., ravens, gulls, and otters) are conducted in camping and non-camping areas.

Approximately 40 to 50 nests are monitored each year. Nesting success and overall productivity was very low through 2002, with less than 25% of the nests being successful in any year. Preliminary data from 2003 indicates that nesting success was significantly higher than in previous years, with approximately 50% of the nests hatching at least one egg. The reasons for this increase are unknown.

Thus far, the only significant pattern observed is that nests located on islets and islands have significantly greater hatching success than those found on the mainland. This may be due to the greater accessibility of mainland nests to mammalian predators such as bear, mink, and wolverine. Additionally, human activity associated with camping may attract predators to nests and thus indirectly cause nest failures by increasing levels of predation. Potential predators such as ravens and bears may be attracted to campsites for food, thus increasing predator densities and the potential for predation of nearby nests. Conversely, other predators such as wolverines may avoid humans thus reducing the likelihood of predation.

Few studies, however, have examined the interaction of humans and predators and their effects on productivity. Data analyzed to date from this study do not indicate a significant difference in nesting success between camping and non-camping areas, only that nests on islets and islands have greater hatching success than those on the mainland; however, two more years remain in the study.

REFERENCES

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